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I, JANENE PEISKER, TEAM LEADER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. 2002952228 for a patent by MARK T FAHEY as filed on 24 October 2002.



WITNESS my hand this  
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A handwritten signature in black ink, appearing to read "J. K. + U.".

JANENE PEISKER  
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**ORIGINAL**

**PROVISIONAL SPECIFICATION FOR AN INVENTION  
ENTITLED**

INVENTION TITLE: ELECTRICAL WIRING FOR BUILDINGS  
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Adelaide, S.A. 5000

**The invention is described in the following statement:**

This invention relates to electrical wiring for buildings and in particular relates both to a method electrical wiring of a building for mains electrical power supply, to looms for assistance in wiring, and to installations incorporating electrical wiring.

## 5 BACKGROUND OF INVENTION

It is common to currently wire buildings for a supply of electrical mains power by having insulated cables strung through the building and variously connected to a supply of electrical power at one end such as electrical connectors at a junction box, and individual sockets at various places through  
10 the building.

The problem to which this invention is generally directed is the cost associated with the necessary one-off nature of the installation process and therefore the implicit high costs associated with such an installation.

## OBJECT OF THIS INVENTION

15 It is an object of this invention to provide in the one case a method, and in another case, apparatus and installations which will assist in reduction of costs.

## SUMMARY OF THE INVENTION

20 In one form of this invention, although this need not necessarily be the only or indeed the broadest form of this, there is proposed a mains electrical power wiring loom for a building which is comprised of at least two cables each having at least two separately insulated electrically conducted cores where the said at least two cables are joined together at least at a beginning of the loom, and each of the cables is terminated with a socket.

25 In preference, there are more than two cables held together at a beginning of the loom.

In preference, the loom at its beginning has ends which are either bared or adapted to be bared so as to be able to be connected into a traditional connector block or other electrical connection.

5 In preference, at least one of the cables is a three core cable and it has at least one three pin socket connected at its end.

In preference, each of the cables at its end has a length of cable which is free from being tethered to the remaining loom of cables.

10 In preference, each of these cables may in turn give rise to a plurality of branches stemming therefrom.

In preference, there is provided in conjunction with such a loom, at least one connector which comprises a cable having at one end a plug and at its further end a socket of a type adapted to be fixed into position as an accessible socket for a user of the building.

15 In preference, such a connector with its socket at its end also includes with the socket, a switch to effect an opening or closing of connection of the cable to the pins of the socket.

20 In a further form of this invention, it could reside in a method of wiring a building for mains electrical power, where there is the first step of locating a loom as characterised in any one of the preceding statements or any combination incorporating the features of the previously described statements, so that at a beginning of the loom, at least two of the cables are connected to electrical junction connectors such as those provided by an electrical power supply authority either by way of a meter box or otherwise, and then locating  
25 the loom so that at least some of the sockets at the end at in the locality for a desired connection for supply of an outlet socket where there is a connector having at one end a plug and at its other, the outlet socket, locating the socket relevant to the building for access by a building user thereafter, and either

before such installation or after such installation, connecting the plug of the connector to the socket of the loom.

5 In another form of this invention, it could be said to reside in a building which has a mains electrical wiring installation where there is incorporated a loom as in any one of the preceding statements or combinations of these, where there is at least two cables with at least two separately insulated cores in respect of each cable and there is at least one electrical socket at an end of each  
10 respective cable and there is at least one outlet socket connected through a connector cable by way of a plug connecting into the socket of at least one of the cables of the loom.

It is anticipated that a loom and respective connectors with plugs and outlet sockets can be manufactured very economically in a factory so that the costs associated with such manufacture can be small.

15 It is envisaged that such manufacture can also be accomplished in locations where costs associated with such manufacture can be kept low.

Accordingly, the high cost of an electrician having to individually locate and bare and connect cables within a building during the installation process can be reduced in so far that the time necessary for a lot of the baring of wires, connections and other manual tasks associated with the traditional method  
20 are now either reduced or removed.

It is envisaged that a loom in accordance with this invention would include a number of cables each with either two or three cores and each would be terminated with a socket at different distances from the beginning of the loom.

25 In this way, an electrician who would still be required to install the wiring, would select a pre-manufactured loom which would be closest to the specifications required and which would be of an appropriate current carrying capacity in accordance with appropriate regulations and then would simply locate the loom in a most efficient way so that the beginning of the loom is located adjacent the supply point for the electrical power and then as many

plugs as possible would be located in a modestly adjacent or in the vicinity of a location for a connector.

Each connector would be a length of cable in its own right and would also be selected so as to be either of two or three cores appropriate to the application, eg with three cores providing an earth, or with two cores such as might be used for connection of lights and other more remote appliances, and in each case would be either connected to for instance a light socket or a power socket which is then appropriate for connection to a wall, an architrave, a skirting, a ceiling or the like.

Again, the electrician or installer would have a variety of such connectors which would be simply selected and connected as considered most appropriate for the particular socket from the loom which has been chosen.

A significant advantage expected from this arrangement is that the wiring itself will have been terminated in factory conditions where quality control can be of the highest level and it can be in each case pre-inspected and even tested prior to sale or installation in the building.

The job of the installer then becomes less variable.

It is expected that in some installations, a loom may not be necessarily exactly appropriate for a particular installation but it is envisaged that, in such a case, one or more of the sockets in the loom can be not used or can be left for future connections and there is significant advantage in the future therefore for even a home owner or building operator or other electrician, to simply then take a further connector and connect further connectors with outlets without there having to be any skill techniques or effort involved in connecting such electrical power to the mains supply.

When reference has been made to "mains supply" it is envisaged that in most countries of the world, there is variously a mains supply of electrical power supplying power at either 50 Hz to 60 Hz and at voltages which can be approximately 110 v, 240 v or 415 v.

These are indicative of what is understood to be indicated by the term "main electrical power".

5 The loom would be expected to be held together where there are a plurality of cables integrated within one common trunk and the way in which these cables could be held together can be varied and indeed as the technique becomes more useful and more extensive, it is envisaged that there could be an integration of such a common trunk cable system where there are however individual cores for each end termination but the way in which the cables at the beginning are held together, can either be by traditional cable ties, by  
10 electrically insulating wrapping, or by any other appropriate form which will hold the cables for convenient handling.

For a better understanding of this invention, it shall now be described with reference to a preferred embodiment which will be described with the assistance of drawings wherein:

15 Figure 1 illustrates a loom in accordance with accordance with the embodiment;

Figure 2 illustrates a connector connecting a socket of one of the cables of the loom to an outlet socket.

20 Now referring to the drawings, the loom 1 includes in this case four separate cables 2, 3, 4, 5, each of which are three cores each, each of which are separately coloured in the traditional way in which earth, active and neutral cores are traditionally coloured for conventional mains electrical power wiring

25 Each of these four cables may in turn give rise to a plurality of branches stemming there from, each branch terminating at a socket. In this case cable 2 has branches 6, 7, 8 terminating at sockets 9, 10, 11 respectively. Similarly, cable 3 has branches 12, 13, 14 terminating at sockets 15, 16, 17 respectively. Each of the plugs are at a differing distance from the beginning of the loom  
30 so as to allow for selection of a loom appropriate to a particular installation requirement.

The loom 1 in this case is held at a beginning 18 by a plurality of cable ties 19 until at respective ends of each of the cables, these being shown respectively at 2, 3, 4, 5.

- 5 Now referring to Figure 2. Each end of a respective cable such as at 21 has a free length shown for instance at 22 which allows the socket 23 to be located in an appropriate position for connection to it by a connector 24 which includes a plug 25 at a first end which is adapted to fit within the socket 23 and have at its other end, an outlet socket 26 which is intended to be installed as a  
10 fixed installation within the building.

- As can be seen, this then facilitates the loom and various connectors being pre-manufactured and being adapted for installation in any building where for a particular building, a loom can be pre-designed or as might be the case in many instances, a standardised set of looms may be available where the most  
15 appropriate of the loom set can be selected for installation in a particular house.

Also, the installer would be expected to have a set of connectors which simply require to be plugged into position where the length of any connector is appropriate for the particular socket to be selected from the loom.

- 20 It is envisaged that any particular cable in the loom can also have two or more sockets electrically connected thereto provided that the current carrying capacity is appropriate for the regulations applicable to that particular installation.

- It is appreciated that the installation described may use more components  
25 than is currently the case with a customised electrical wiring installation.

However, on calculations thus far accomplished, it has been established that with economic manufacture in a factory situation particularly with lower cost labour, a loom may be a relatively small cost associated with the total cost of the building and especially the time otherwise necessary for a specialist



electrician or other electrical installer to spend on a one by one basis baring wires and connecting electrical connectors.

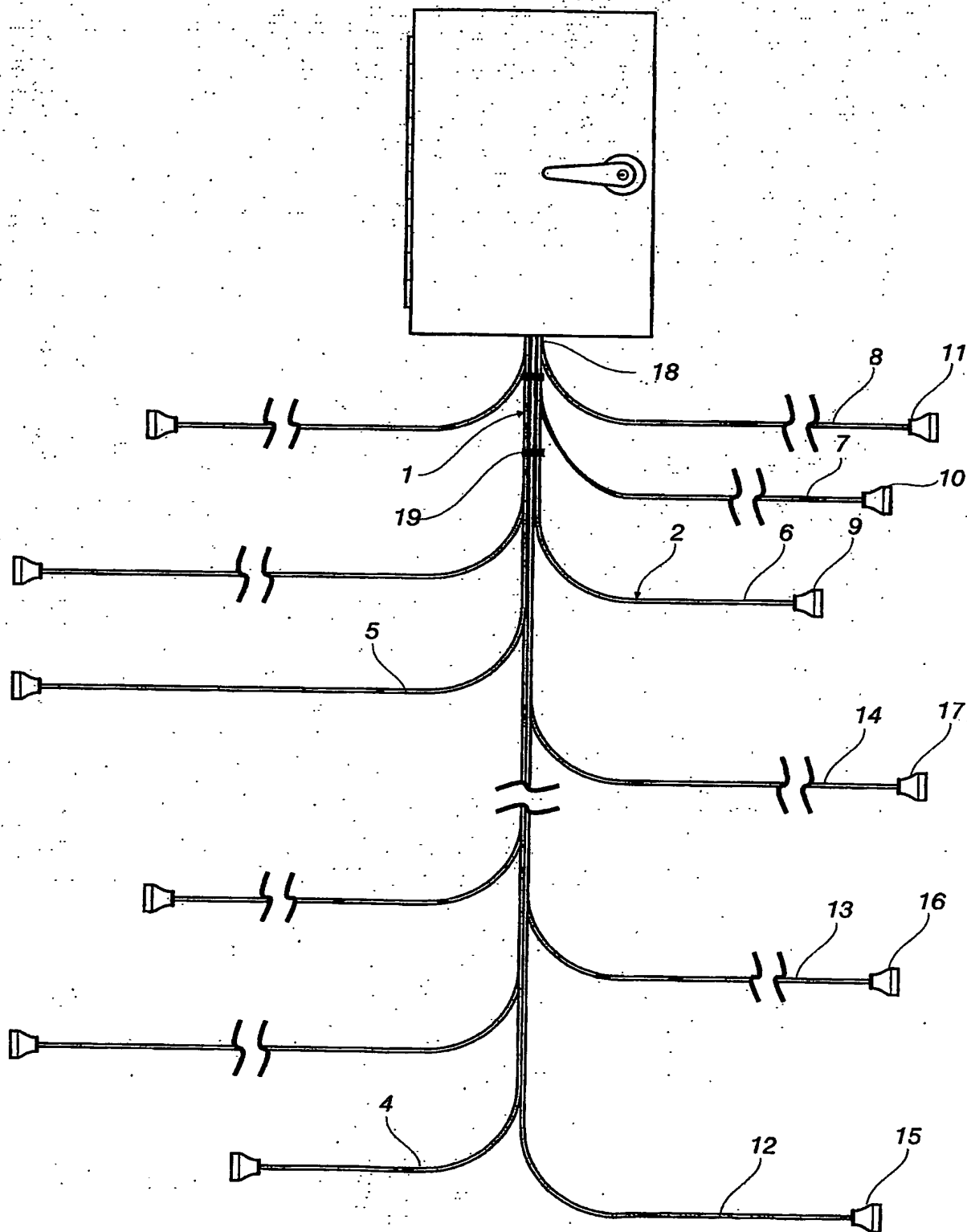
5 There is also the significant advantage in safety insofar that it will now be very unlikely for individual cores to be wrongly connected where this has been a difficulty in the past for instance where a neutral wire has been located in an active wire location and vice versa or even worse, one of the active or neutral wires being connected to an earth pin.

10 It is further envisaged that there can be extension connectors which can be provided for a beginning of a loom so as to assist in the customisation of each loom for a particular application.

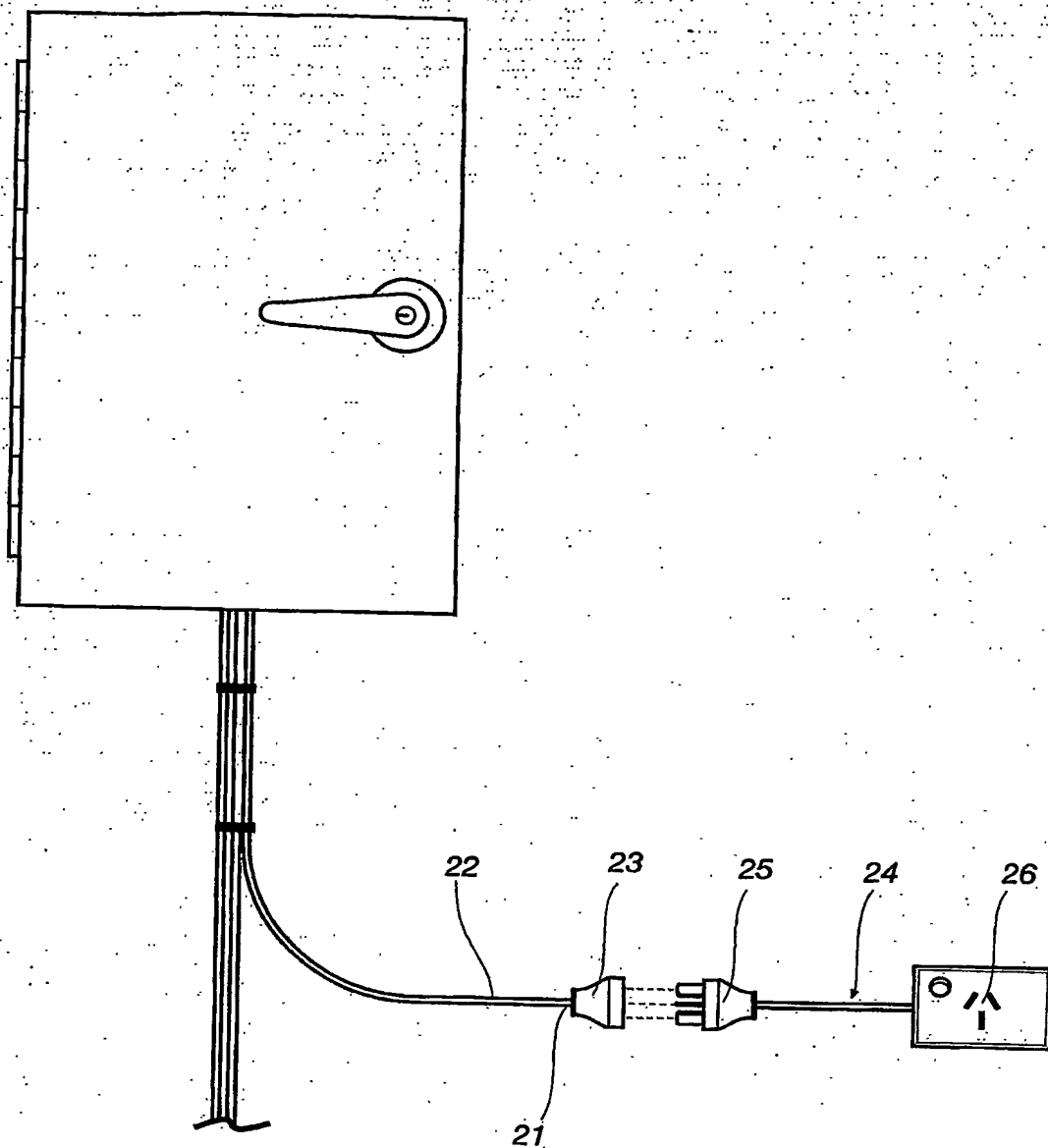
Throughout this specification the purpose has been to illustrate the invention and not to limit this.

Dated this 24th day of October 2002

15 MARK T FAHEY  
By his Patent Attorneys  
COLLISON & CO.



**Fig 1**



**Fig 2**

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